

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A syringe having a distal end portion to which a first female connector and a second female connector provided on an outer peripheral surface thereof with a female-side screw engagement portion can be alternatively connected, said syringe comprising:

a mouth portion which is provided at a distal end portion thereof with a male taper portion to be fitted in a bore portion of said first female connector and a bore portion of said second female connector and which is provided therein with a passage for permitting a liquid to pass therethrough; and

a lock adapter provided at an outer peripheral portion of said mouth portion, said lock adapter being relatively movable in the axial direction of said mouth portion and being provided on an inner peripheral surface thereof with a male-side screw engagement portion for making screw engagement with said female-side screw engagement portion; wherein

 said lock adapter can be retracted to a retraction position on the proximal end side at the time of an operation of fitting said male taper portion into said bore portion of said first female connector, and

said lock adapter is restrained from rotating about the mouth portion.

2. (Canceled)

3. (Previously Presented) The syringe as set forth in claim 1, wherein said male taper portion protrudes beyond the distal end of said lock adapter by not less than 7.5 mm when said lock adapter is located in said retraction position.

4. (Previously Presented) The syringe as set forth in claim 1, having a distal end side fixation position where said lock adapter is fixed to said mouth portion when said lock adapter is located on the distal end side of said mouth portion.

5. (Canceled)

6. (Previously Presented) The syringe as set forth in claim 4, wherein said male taper portion protrudes beyond the distal end of said lock adapter by not less than 2.1 mm when said lock adapter is located in said distal end side fixation position.

7. (Previously Presented) The syringe as set forth in claim 1, wherein said lock adapter is relatively movable by not less than 5.4 mm along the axial direction of said mouth portion.

8. (Previously Presented) The syringe as set forth in claim 1, wherein the inside diameter (on average) of said mouth portion is not less than 1.2 mm.

9. (Previously Presented) The syringe as set forth in claim 1, wherein the length of said mouth portion is in the range of 16 to 20 mm.

10. (Previously Presented) The syringe as set forth in claim 1, comprising an outer hollow cylinder provided at a distal end portion thereof with said mouth portion and said lock adapter, and a gasket slidable in said outer hollow cylinder, wherein

the volume of a space defined by said outer hollow cylinder and said gasket when said gasket is located at the distal end of the inside of said outer hollow cylinder is not more than 0.1 mL.

11. (Currently Amended) A cap to be mounted to a mouth portion of a syringe outer hollow cylinder, said syringe outer hollow cylinder comprising said mouth portion projectingly formed at the distal end of said syringe outer hollow cylinder and provided at a distal end portion thereof with a male taper portion, and a lock adapter provided at an outer peripheral portion of said mouth portion, said lock adapter being relatively movable along the axial direction of said mouth portion, said lock adapter being restrained from rotating about the mouth portion, said lock adapter and being provided on an inner peripheral surface thereof with a male-side screw engagement portion, said cap comprising:

a bottomed hollow-cylindrical cap main body comprising a bore portion, and a female-side screw engagement portion formed on an outer peripheral portion of said cap main body for screw engagement with said male-side screw engagement portion; and

a packing formed of an elastic material and provided in said bore portion of said cap main body; wherein

at least a part of the inner peripheral surface of said bore portion makes close contact with said male taper portion over the entire circumference when said cap main body is mounted to said mouth portion.

12. (Original) The cap as set forth in claim 11, wherein when the inner peripheral surface of said bore portion makes close contact with said male taper portion, said packing is clamped between an end face of said bore portion and the distal end of said mouth portion to seal said mouth portion in a liquid-tight manner.

13. (Currently Amended) A method of producing a prefilled syringe comprising: a syringe outer hollow cylinder having a mouth portion projectingly formed at the distal end of said syringe outer hollow cylinder and provided at a distal end portion thereof with a male taper portion, and a lock adapter provided at an outer peripheral portion of said mouth portion, said lock adapter being relatively movable along the axial direction of said mouth portion, said lock adapter being restrained from rotating about the mouth portion, said lock adapter, and being provided on an inner peripheral surface thereof with a male-side screw engagement portion; a cap as set forth in claim 11 which is mounted to said mouth portion; and a liquid preparation filling said syringe outer hollow cylinder; said method comprising the steps of:

sterilizing said syringe outer hollow cylinder and said cap;

then mounting said cap to said mouth portion in a sterile environment; and

thereafter feeding said liquid preparation into said syringe outer hollow cylinder in a sterile environment.

14. (Currently Amended) A method of producing a prefilled syringe comprising: a syringe outer hollow cylinder having a mouth portion projectingly formed at the distal end of said syringe outer hollow cylinder and provided at a distal end portion thereof with a male taper portion, and a lock adapter provided at an outer peripheral portion of said mouth portion, said lock adapter being relatively movable along the axial direction of said mouth portion, said lock adapter being restrained from rotating about the mouth portion, said lock adapter and being provided on an inner peripheral surface thereof with a male-side screw engagement portion; a cap as set forth in claim 11 which is mounted to said mouth portion; and a liquid preparation filling said syringe outer hollow cylinder; said method comprising the steps of:

mounting said cap to said mouth portion and performing sterilization under this condition; and

thereafter feeding said liquid preparation into said syringe outer hollow cylinder in a sterile environment.

15. (New) The syringe as set forth in claim 1, wherein an outer peripheral surface of said mouth portion is provided with a plurality of ribs, said ribs projecting outward and extending along an axial direction of said mouth portion, an inner peripheral surface of a proximal end portion of said lock adapter being provided with a plurality of pawls, said pawls projecting toward a center axis of said lock adapter,

said ribs abutting on said pawls to restrain said lock adapter from rotating about said mouth portion.

16. (New) The cap as set forth in claim 11, wherein an outer peripheral surface of said mouth portion is provided with a plurality of ribs, said ribs projecting outwards and extending along an axial direction of said mouth portion, an inner peripheral surface of a proximal end portion of said lock adapter being provided with a plurality of pawls, said pawls projecting toward a center axis of said adapter, said ribs abutting on said pawls to restrain said lock adapter from rotating about said mouth portion.

17. (New) A method as set forth in claim 13, wherein an outer peripheral surface of said mouth portion is provided with a plurality of ribs, said ribs projecting outwards and extending along an axial direction of said mouth portion, an inner peripheral surface of a proximal end portion of said lock adapter being provided with a plurality of pawls, said pawls projecting toward a center axis of said adapter, said ribs abutting on said pawls to restrain said lock adapter from rotating about said mouth portion.

18. (New) A method as set forth in claim 14, wherein an outer peripheral surface of said mouth portion is provided with a plurality of ribs, said ribs projecting outwards and extending along an axial direction of said mouth portion, an inner peripheral surface of a proximal end portion of said lock adapter being provided with a plurality of pawls, said pawls projecting toward a center axis of said adapter, said

ribs abutting on said pawls to restrain said lock adapter from rotating about said mouth portion.